#### SERIESSUM

[Syntax](Syntax.docx):

SERIESSUM ( input-value , initial-power , step , coefficients )

Description: Computes the sum of a power series.

Mathematical Formula:

The sum of a power series is based on the formula:



where input-value = x, initial-power = [n](n.docx), step = [m](m.docx), and coefficients is the set of a values.

Arguments:

|  |  |  |
| --- | --- | --- |
| Name | Type | Description |
| input-value | number | The input value to the power series; |
| initial-power | number | The initial power to which input-value is to be raised. |
| step | number | The step by which to increase initial-power for each term in the series; |
| coefficients | [reference](reference.docx) | A set of coefficients by which each successive power of input-value is multiplied. The number of values in coefficients determines the number of terms in the power series. |

Return Type and Value: number – The sum of a power series.

[Example: Given the following data:

|  |  |
| --- | --- |
|  | A |
| 1 | 1 |
| 2 | =-1/FACT(2) |
| 3 | =1/FACT(4) |
| 4 | =-1/FACT(6) |

SERIESSUM(PI()/4,0,2,A1:A4) results in 0.707103, an approximation to the cosine of π/4 radians

end example]